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History of Corning Frequency Control

Global Leader in Precision Frequency Control Products

Timeline

1952 *McCoy Electronics established by Luther McCoy*

1961 *Oak Industries purchases McCoy Electronics*

1974 *McCoy Crystal facility opens in Mercersburg, PA*

1987 *Oak Industries purchases Ovenaire, HES, and Croven Crystals*

1991 *Oak Industries creates the Oak Frequency Control Group (OFC)*

1993 *Oak Industries purchases Spectrum Technology*

1994 *OFC Split-off McCoy Crystals as separate business unit*

1995 *Oak Frequency Control divided into CPG and SPG business units*

1997 *Oak Industries purchases Piezo-Crystal Company*

1998 *Oak Industries purchases Tele Quarz GmbH*

1999 *Oak Industries merges with Corning Incorporated*

2000 *All Frequency Control divisions of the former Oak Industries consolidated into Corning Frequency Control*

1952

With the name McCoy, inevitably someone refers to the old adage “the real McCoy.” When Luther McCoy established McCoy Electronics in 1952, quality and workmanship were of first importance, to assure that the name “McCoy” would indeed indicate “Real” quality.

McCoy Electronics Company manufactured quartz crystal units, the basic component of which is quartz, fabricated to certain dimensions and characteristics to control frequency. These units are used in radio communications and other electronic devices requiring controlled guidance of the transmitting of data, as in guided missiles and satellites.

The McCoy product line consisted of quartz crystals, quartz crystal filters, switching assemblies, crystal ovens, glass components for glass enclosed crystal units, and other frequency controlling devices.

By 1959, two expansions were completed on the original 5,600 square foot plant in Mount Holly Springs, PA, bringing the total to 23,000 square feet. McCoy employed approximately 225 people by the end of their first eight years.

1961

On February 1, 1961, McCoy was acquired by Oak Industries Inc. of Waltham, Mass. For thirty years, McCoy Electronics was operated as a wholly owned subsidiary incorporated under the laws of the Commonwealth of Pennsylvania.

An ambitious plant expansion program was launched in the early 1960's, with a brand-new 56,000 sq. ft. facility completed in 1963.

1974

McCoy Crystal opens a 24,000 sq. ft. crystal manufacturing facility in Mercersburg, Pennsylvania.

1987

Oak Industries Inc. purchased Ovenaire (Ovenaire-Audio-Carpenter, or OAC) in 1991. Ovenaire manufactures and markets crystal ovens, ovenized crystal oscillators, and temperature compensated crystal oscillators sold under the Ovenaire trade name. Ovenaire was originally located in Charlottesville, Virginia.

Oak Industries Inc. purchased Houston Electronics (H.E.S.). H.E.S. manufactures hermetically sealed glass to metal holders used by manufacturers of quartz crystals. They specialize in cold weld, resistance weld, and solder seal configurations. H.E.S. was originally located in Kane, Pennsylvania, and later relocated to Kansas City, Kansas.

Oak Industries Inc. purchased Croven Crystals in Whitby, ONT, Canada.

1991

Oak Industries Inc. consolidates McCoy Electronics, Ovenaire, and HES into the Oak Frequency Control Group (OFCG). Ovenaire moved to Mount Holly Springs, PA.

1993

Oak Industries Inc. purchased Spectrum Technology, the Goleta, CA subsidiary of Datum, Inc., on January 12, 1993. Spectrum manufactures hybrid oscillators and TCXOs. Spectrum consolidated into OFCG and moved to Mount Holly Springs, PA.

1994

Oak Frequency Control split-off McCoy Crystals as a separate business unit. McCoy operates in Mercersburg, PA.

1995

Oak Frequency Control divided OFC Networks into the Custom Products Group and the Standard Products Group

1997

In September 1997, Oak Industries Inc. completed the acquisition of Piezo-Crystal Company. Piezo was founded in 1936, initially to supply frequency determining quartz crystals to the US Army. Piezo designs and manufactures quartz crystal resonators used predominantly as timing references in cellular, PCS and VSAT infrastructure equipment. The company derives a majority of its revenue from the wireless communications market in which it is a technological leader in the manufacture of high specification frequency control products. Precision crystals are designed and manufactured in Corning Frequency Control's Carlisle, Pennsylvania facility. The Piezo line of precision oscillators are now designed and manufactured in Corning Frequency Control's Mount Holly Springs, PA facility.

1998

In October 1998, Oak Industries Inc. completed the acquisition of Tele Quarz GmbH & Co. KG, recognized as Europe's leading supplier of frequency control components.

The Tele Quarz line of precision frequency control products are designed and manufactured in Neckarbischofsheim, Germany.

The addition of Tele Quarz to the Oak Frequency Control Group strengthened Oak's already strong position in numerous markets, including cellular infrastructure, telecommunications transmission and switching, paging radio subscriber and infrastructure, DECT, automotive, medical, position location, military and space communication, satellite communications, avionics, and guidance.

1999

Oak Industries Inc. and Corning Incorporated announced on November 14, 1999 that they had signed a definitive agreement for the companies to merge in a transaction that would strengthen Corning's position as a global leader in optical communications. This merger was completed on January 28, 2000.

2000

Oak Frequency Control Group officially announces its name change to *Corning Frequency Control.*

As Corning Frequency Control commemorates its 48th year, we have begun construction on a 40,000 square foot expansion of our operations facility in Mount Holly Springs, PA. The addition will contain a state-of-the-art Engineering and Design Center, and will provide additional manufacturing and administrative capacity.

Today

Operating as a subsidiary of Corning Incorporated, Corning Frequency Control will continue to be a world leader in standard and custom quartz crystal frequency control products for a variety of applications. The combined companies employ over 1,300 people worldwide.

Facilities

Eight Corning Frequency Control facilities manufacture precision frequency control products in North America, Europe, and Asia:

Mt Holly Springs, PA, is a sales, design, manufacturing, and test center for OCXOs, VCXOs, TCXOs, clock oscillators, and crystal filters, under the *Corning Frequency Control* brand name. The facility is ISO-9001 registered, and has been in continuous operation since 1952.

Neckarbischofsheim, Germany, is a sales, design, manufacturing, and test center for OCXOs, VCXOs, TCXOs, clock oscillators, and quartz crystals, under the *Corning Frequency Control Tele Quarz* brand name. The facility is ISO-9001 and QS-9000 registered, and has been in continuous operation since 1973. Tele Quarz also uses an outsourcing facility, located in **Piestany, Slovakia**, which is focused on the manufacture of crystals for high volume applications.

Corning Frequency Control has three quartz crystal manufacturing locations in North America. Our **Carlisle, PA**, location is a sales, design, manufacturing, and test center for precision SC-cut crystals. The facility has been in continuous operation since 1936. Our **Whitby, Ontario**, facility has been designing and manufacturing precision SC- and AT-cut resonators for precision control applications since 1954. Our **Mercersburg, PA**, location designs and manufactures precision AT- and SC-cut crystals resonators. It has been in continuous operation since 1974.

Corning Frequency Control has an established wholly owned foreign enterprise (WOFE) in **Shanghai, China**, serving the rapidly expanding Chinese market. This facility was opened in 1997. December 2000 will mark the opening of our second China manufacturing facility, located in the **Pudong** free trade zone. Both of our China facilities manufacture surface mount VCXOs under the *Corning Frequency Control* brand name.

About Corning Frequency Control

Corning Frequency Control designs and manufactures precision crystal oscillators, resonators, and filters that serve as stable frequency references for a broad range of wireless and wireline communications technologies. Applications include cellular, personal communications systems (PCS), wireless base stations, telecom switching systems, and WAN/LAN equipment, including optical networking, test instrumentation, and satellite communications. For more information, contact a Corning Frequency Control representative, or visit our website at http://www.corning.com/frequency.

About Corning Incorporated

Established in 1851, Corning Incorporated (http://www.corning.com) creates leading-edge technologies for the fastest-growing markets of the world's economy. Corning manufactures optical fiber, cable and photonic products for the telecommunications industry; and high-performance displays and components for television and other communications-related industries. The company also uses advanced materials to manufacture products for scientific, semiconductor and environmental markets. Corning revenues for 1999 were $4.7 billion.